

MSDS Packaged as Echo 50:1 Two Cycle Engine Oil w/ Fuel Stabilizer

CITGO Petroleum Corporation P.O. Box 3758

MSDS No.

625491001

Tulsa, OK 74102-3758 Revision Date

03/14/05

IMPORTANT: Read this MSDS before handling or disposing of this product and pass this information on to employees, customers and users of this product.

Emergency Overview

Physical State

Liquid.

Color Blue-green.

Odor

Petroleum.

WARNING:

Contains Petroleum Distillates. Harmful if swallowed - Can enter lungs and cause damage.

If swallowed, DO NOT induce vomiting. Call a physician immediately. Combustible Liquid.

Heated material can release vapor that can cause flash fire or ignite with explosive force.

Vapor or mists can cause mucous membrane and respiratory tract irritation.

Safety glasses are recommended when handling this material.

Avoid repeated or prolonged skin contact.

Do not store in open or unmarked containers.

Spills may create a slipping hazard.

Hazard Rankings									
	HMIS		NFPA						
Health Hazard	*	1	1						
Fire Hazard		2	2						
Reactivity		0	0						
* = Chronic Health Hazard									

Protective Equipment

Minimum Recommended See Section 8 for Details





SECTION 1: IDENTIFICATION

Trade Name Inhibited GD Two-Cycle Engine Oil Technical Contact (800) 248-4684

 Product Number
 625491001
 Medical Emergency
 (918) 495-4700

CAS Number Mixture. CHEMTREC Emergency (800) 424-9300 (United States Only)

Product Family Two Cycle Engine Oil

CITGO SAP Product Code No.: 625491001

Synonyms Two cycle engine oil;

SECTION 2: COMPOSITION

Component Name(s) CAS Registry No. Concentration (%)

1) Distillates, petroleum, solvent-refined heavy paraffinic 64741-88-4 40 - 60 2) Polybutene 9003-29-6 20 - 40

3) Petroleum hydrocarbon distillates 8052-41-3 10 - 30 4) Distillates, petroleum, hydrotreated heavy paraffinic 64742-54-7 0 - 10

4) Distillates, petroleum, hydrotreated heavy paraffinic 64742-54-7 0 - 10 5) Proprietary Ingredients Proprietary Mixture 0 - 10

SECTION 3: HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry Skin contact. Eye contact.

Signs and Symptoms of Acute Exposure

Inhalation At elevated temperatures or in enclosed spaces, product mist or vapors may irritate the mucous

membranes of the nose, the throat, bronchi, and lungs.

Eye Contact Mild to moderate eye irritation can result from short-term contact with liquid, mist, or vapor.

Skin Contact This material can cause mild skin irritation from prolonged or repeated skin contact. Injection under the

skin can cause inflammation and swelling. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires

immediate medical attention.

Ingestion If swallowed, large volumes of material can cause generalized depression, headache, drowsiness, nausea,

vomiting and diarrhea. Smaller doses can cause a laxative effect. If aspirated into the lungs, liquid can

cause lung damage.

Chronic Health Effects

Summary

Prolonged and/or repeated skin contact may cause irritation and inflamation. Symptoms include defatting, redness, dryness, blistering eczema-like lesions, scaly dermatitis, and/or more serious skin disorders.

Chronic effects of ingestion and subsequent aspiration into the lungs may cause pneumatocele (lung

cavity) formation and chronic lung dysfunction.

Conditions Aggravated

by Exposure

Medical conditions aggravated by exposure to this material may include pre-existing disorders of the skin,

central nervous system, respiratory system, liver and/or kidney.

Target Organs Contains material which causes damage to the following organs: upper respiratory tract, mucous

membranes, central nervous system (CNS).

This material may cause damage to the following organs: skin.

Carcinogenic Potential This product does not contain any components at concentrations above 0.1% which are considered

carcinogenic by OSHA, IARC or NTP.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).										
OSHA Health Hazard Classification				OSHA Physical Hazard Classification						
Irritant		Toxic		Combustible	Х	Explosive		Pyrophoric		
Sensitizer		Highly Toxic		Flammable		Oxidizer		Water-reactive		
Corrosive		Carcinogenic		Compressed Gas		Organic Peroxide		Unstable		

SECTION 4: FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is

difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical

attention immediately. Keep the affected individual warm and at rest.

Eye Contact Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while

occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness, or pain

persists.

MSDS No. **Revision Date** 625491001 10/10/2002 Continued on Next Page Page Number: 2

Skin Contact If burned by hot material, cool skin by quenching with large amounts of cool water. Remove

contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods. If material is injected

under the skin, seek medical attention immediately.

IngestionDo not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed

to by a physician. Never give anything by mouth to a person who is not fully conscious. If significant amounts are swallowed or irritation or discomfort occurs, seek medical attention immediately.

Notes to Physician The viscosity range of the product represented by this MSDS is 100 to 400 SUS at 100° F. Accordingly,

upon ingestion there is a low to moderate risk of aspiration. Careful gastric lavage may be considered to evacuate large quantities of material. Subcutaneous or intramuscular injection requires prompt

surgical debridement.

SECTION 5: FIRE FIGHTING MEASURES

NFPA Flammability Classification NFPA Class-IIIA combustible liquid. Moderately combustible.

Flash Point Method CLOSED CUP: 68°C (154°F). (Pensky-Martens (ASTM D-93)) OPEN CUP: 84°C (183°F) (Cleveland.).

Lower Flammable Limit No data. Upper Flammable Limit No data.

Autoignition Temperature No data

Hazardous

Combustion Products

Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur

and/or nitrogen.

Special Properties This material will release vapors when heated above the flash point temperature that can ignite when

exposed to a source of ignition. In enclosed spaces, vapors can ignite with explosive force. Mists or

sprays may burn at temperatures below the flash point.

Extinguishing Media SMALL FIRE: Use dry chemicals, carbon dioxide, foam, water fog, or inert gas (nitrogen).

LARGE FIRE: Use foam, water fog, or water spray. Water fog and spray are effective in cooling containers and adjacent structures. However, water can cause frothing and/or may not extinguish the fire. Water can be used to cool the external walls of vessels to prevent excessive pressure, autoignition or explosion. DO NOT use a solid stream of water directly on the fire as the water may spread the fire

to a larger area.

Protection of Fire Fighters Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained

breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Withdraw immediately from the area if there is a rising sound from a venting safety

device or discoloration of vessels, tanks, or pipelines.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard; do not walk through spilled material. Stop leak if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spill as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulation

SECTION 7: HANDLING AND STORAGE

Handling Avoid contamination and extreme temperatures to minimize product degradation. Empty containers

may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming,

recycling or disposing of empty containers and/or waste residues of this product.

Storage Keep container closed. Store in a cool, dry, well-ventilated area. Do not store with oxidizing agents.

Do not store at elevated temperatures or in direct sunlight for extended periods of time. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or

disposing of empty containers or waste residues of this product.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists

and/or vapors below the recommended exposure limits (see below). An eye wash station and safety

shower should be located near the work-station.

Personal Protective
Equipment

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be

required.



Eye Protection Safety glasses equipped with side shields are recommended as minimum protection in industrial

settings. Wear goggles and/or face shield if splashing or spraying is anticipated. Wear goggles and

face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.

Hand Protection

Avoid skin contact. Use gloves (e.g., disposable PVC, neoprene, nitrile, vinyl, or PVC/NBR). Wash hands with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or

leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners.

Body Protection

Use clean and impervious protective clothing (e.g., neoprene or Tyvek®) if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat.

If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower. Launder contaminated before reuse or discard. Wear heat protective boots and protective

clothing when handling material at elevated temperatures.

Respiratory Protection Vaporization is not expected at ambient temperatures. Therefore, the need for respiratory protection is

not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements

(29 CFR 1910.134).

General Comments Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild

soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since specific exposure

standards/control limits have not been established for this product, the "Oil Mist, Mineral" exposure

limits shown below are suggested as minimum control guidelines.

Occupational Exposure Guidelines

Substance Applicable Workplace Exposure Levels

1) Oil Mist, Mineral ACGIH (United States).

TWA: 5 mg/m³ STEL: 10 mg/m³ OSHA (United States). TWA: 5 mg/m³

2) Petroleum hydrocarbon distillates ACGIH (United States).

TWA: 100 ppm OSHA (United States). TWA: 500 ppm

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State Liquid. Color Blue-green. Odor Petroleum.

Specific Gravity 0.87 (Water = 1) pH Not Applicable. Vapor >1 (Air = 1)

Density

Boiling Point/Range Not available. Melting/Freezing Not available.

Point

Vapor Pressure <0.1 kPa (<1 mmHg) (at 20°C) Viscosity (cSt @ 40°C) 77

Solubility in Water Insoluble in cold water. Volatile AP 135 g/I VOC's W/V.

Characteristics

Additional Properties Gravity, °API (ASTM D287) = 31.3 @ 60° F

Density = 7.24 Lbs/gal.

Viscosity (ASTM D2161) = 400 SUS @ 100° F

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability Stable. Hazardous Polymerization Not expected to occur.

Conditions to Avoid Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions.

Materials Incompatibility Strong oxidizers.

Hazardous No additional hazardous decomposition products were identified other than the combustion products

Decomposition Products identified in Section 5 of this MSDS.

SECTION 11: TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data Distillates, petroleum, solvent-refined heavy paraffinic:

ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Petroleum hydrocarbon distillates:

DERMAL (LD50): Acute: >3000 mg/kg [Rabbit].
INHALATION (LC50): Acute: >5.5 mg/l 8 hour(s) [Rat].

Distillates, petroleum, hydrotreated heavy paraffinic:
ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, solvent-refined heavy paraffinic:

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested. Analyses conducted by method IP 346 indicate that the polycyclic aromatic concentration of this mineral oil is below 3.0 weight percent.

Petroleum hydrocarbon distillates:

Studies on laboratory animals have associated similar materials with mild to moderate eye and respiratory tract irritation. Studies on laboratory animals have shown similar materials to cause skin irritation after repeated or prolonged contact. Human volunteers exposed to an airborne concentration of 400 ppm experienced no ill effects. Saturated vapors in air (or AP 8,200 mg/m³) are below the LC50 level in rats. Based upon laboratory animal studies, repeated direct application of Stoddard Solvent to the skin can produce defatting dermatitis, kidney damage, and changes in blood-forming capacity. Rats developed kidney damage and elevated blood urea nitrogen levels when exposed to a concentration of 1.9 mg/L for 65 days. The kidney damage in rats appeared to involve both the tubules and glomeruli, and occurred only in males. Male rats exposed to airborne concentrations of 100, 150, and 1,500 ppm for 6 hours per day, 5 days per week for 90 days did not develop any functional or histological signs of neurotoxicity. Similar materials were determined not to be mutagenic in the Salmonella/microsome (Ames) assay, the in-vivo mouse bone marrow cell chromosome abberations assay, or the in-vitro rat sister chromatid exchanges assay.

Distillates, petroleum, hydrotreated heavy paraffinic:

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.

Environmental Fate

An environmental fate analysis has not been conducted on this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a RCRA "hazardous waste" at the time of disposal. Transportation, treatment, storage and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact the RCRA/Superfund Hotline at (800) 424-9346 or your regional US EPA office for guidance concerning case specfic disposal issues.

SECTION 14: TRANSPORT INFORMATION

DOT Status

A U.S. Department of Transportation regulated material.

Proper Shipping Name

Combustible liquid, n.o.s. (contains Petroleum Distillates)

[This product has a flash point temperature between 60.5° to 93°C (141° and 200°F). For bulk shipments, it is classified as a US DOT "Combustible Liquid." According to 49 CFR 173.150 (f)(2), certain transportation-related requirements, such as labeling, may not apply to this product when shipped in non-bulk packaging (e.g., less than 119 gallons capacity). However, pursuant to 49 CFR 173.150 (b) limited-quantities offered for or transported via aircraft may be subject to US DOT regulation.]

Hazard Class Combustible Liquid. Packing Group(s) Ш

> UN/NA ID NA 1993

Reportable Quantity A Reportable Quantity (RQ) has not been established for any components of this material.

Placards



Emergency Response Guide

No.

HAZMAT STCC No. 49115378

MARPOL III Status Not a DOT "Marine Pollutant"

per 49 CFR 171.8.

SECTION 15: REGULATORY INFORMATION

TSCA Inventory This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

SARA 302/304 The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject

to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances"

listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.

SARA 311/312 The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject

to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40

CFR 370.2. This material would be classified under the following hazard categories:

Fire, Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard

SARA 313 This product contains the following components in concentrations above de minimis levels that are

listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA: No

components were identified.

CERCLA The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)

requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: None identified.

CWA This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil

Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the

EPA's National Response Center at (800) 424-8802.

California This material may contain the following components which are known to the State of California to cause **Proposition 65**

cancer, birth defects or other reproductive harm, and may be subject to the requirements of California

Proposition 65 (CA Health & Safety Code Section 25249.5): Toluene: 0.0003%

New Jersey Right-to-Know Label Petroleum Oil (Two Cycle Engine Oil)

Additional Regulatory Remarks

Federal Hazardous Substances Act, related statutes, and Consumer Product Safety Commission regulations, as defined by 16 CFR 1500.14(b)(3) and 1500.83(a)(13): This product contains "Petroleum Distillates" which may require special labeling if distributed in a manner intended or packaged in a form suitable for use in the household or by children. Precautionary label dialogue should display the following: DANGER: Contains Petroleum Distillates! Harmful or fatal if swallowed! Call Physician Immediately. KEEP OUT OF REACH OF CHILDREN!

MSDS No. **Revision Date** 625491001 10/10/2002 Continued on Next Page Page Number: 7

SECTION 16: OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number 2.2

Revision Date 10/10/2002

Print Date Printed on 10/10/2002.

ABBREVIATIONS

AP: Approximately EQ: Equal >: Greater Than <: Less Than NA: Not Applicable ND: No Data NE: Not Established

ACGIH: American Conference of Governmental Industrial Hygienists AIHA: American Industrial Hygiene Association

IARC: International Agency for Research on Cancer NTP: National Toxicology Program

NIOSH: National Institute of Occupational Safety and Health OSHA: Occupational Safety and Health Administration

NPCA: National Paint and Coating Manufacturers Association

HMIS: Hazardous Materials Information System

NFPA: National Fire Protection Association

EPA: US Environmental Protection Agency

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